

**Amendments to the Claims:**

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A process monitor for monitoring a process in a process chamber by a sensor wafer having a sensor formed on a semiconductor wafer, comprising a capacitor on the sensor wafer as a power supply, a memory to store measured data obtained by the monitoring and a ROM operatively configured for storing a keyword that authorizes a read of the measured data, wherein the capacitor is made with material that does not contaminate the process chamber.

2. (Cancelled)

3. (Original) A process monitor according to Claim 1, further comprising a timer which is used to specify a measuring time and a measuring period.

4. (Cancelled)

5. (Original) A process monitor according to Claim 1, wherein said capacitor is formed by stacking a poly-silicon layer and a silicon nitride layer on said semiconductor wafer.

6. (Original) A semiconductor manufacturing apparatus having the process monitor of Claim 1, comprising a process monitor housing unit to store said process monitor.

7. (Original) A semiconductor manufacturing apparatus having the process monitor of Claim 1, comprising a charging unit to charge said capacitor, which is the power supply of the process monitor.

8. (Currently Amended) A semiconductor manufacturing apparatus having the process monitor of ~~Claim 2~~ Claim 1, comprising a reader/writer to read and write the measured data stored in said memory.

9. (Original) A semiconductor manufacturing apparatus according to Claim 8, comprising a control unit which compares the measured data read by said reader/writer with predetermined reference data and controls the manufacturing process in predetermined way, if the measured data exceeds a predetermined range of the reference data.

10. (Previously Presented) A process monitor according to Claim 1, further comprising a controller.

11. (Currently Amended) A process monitor for monitoring a process in a process chamber by a sensor wafer having a sensor formed on a semiconductor wafer, comprising a pair of capacitors on the sensor wafer as a power supply, a memory to store measured data obtained by the monitoring and a ROM operatively configured for storing a keyword that authorizes a read of the

measured data, wherein the capacitors are made with material that does not contaminate the process chamber.

12. (Previously Presented) A process monitor according to Claim 11, wherein the capacitors are connected in series.

13. (Previously Presented) A process monitor according to Claim 11, wherein the capacitors are connected in parallel.

14. (New) A process monitoring apparatus for monitoring a semiconductor manufacturing process, comprising:

a container element;

a monitor element including a wafer and a plurality of sensors attached to the wafer, the monitor element being able to be transferred into target environments in a process facility or into the container element by a transfer robot; and

an electronics module attached to the container element, the electronics module being available for communication with the monitor element when the monitor element is transferred into the container element.

15. (New) A process monitoring apparatus according to Claim 14, wherein the electronics module automatically communicates with the monitor element when the monitor element is transferred into the container element.

16. (New) A process monitoring apparatus according to Claim 14, wherein the electronics module comprises a charging unit charging a power supply of the monitor element.

17. (New) A process monitoring apparatus according to Claim 16, wherein power to the monitor element is fed using a contactless technique.

18. (New) A process monitoring apparatus according to Claim 17, wherein the contactless technique includes the use of wireless communication.

19. (New) A process monitoring apparatus according to Claim 14, wherein the electronics module comprises a reading unit reading data stored in a memory of the monitor element.

20. (New) A process monitoring apparatus according to Claim 19, wherein the data is read using a contactless technique.

21. (New) A process monitoring apparatus according to Claim 20, wherein the contactless technique includes the use of wireless communication or infrared rays.

22. (New) A method for monitoring a process in a process chamber comprising the acts of:

introducing a monitor element into the process chamber, the monitor element comprising a semiconductor wafer having formed thereon a plurality of sensors, a data memory, and a read only memory;

sensing a condition in the process chamber using the sensors and storing data representing said condition in the data memory;  
reading a keyword stored in the read only memory; and  
reading data in the data memory only after successfully reading the keyword.

23. (New) A method according to Claim 22, wherein at least one of the keyword and the data are read using a contactless technique.

24. (New) A method according to Claim 22, wherein the wafer comprises at least one capacitor formed thereon, said at least one capacitor being operatively configured as a power supply.

25. (New) A method according to Claim 22, further comprising:  
comparing the data representing the sensed condition with predetermined reference data, and  
controlling a manufacturing process within the chamber based on the comparison.